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ABSTRACT

A study investigated sex based differences among intercollegiate athletes for the variables: motive to succeed (Ms), motive to avoid failure (Maf), and fear of success (FOS). Actual athletic competitions were used as target situations to elicit feelings of Ms, Maf, and FOS within each athlete. Mehrabian's scale of achieving tendencies, Martens' Sport Competition Anxiety Test, and Pappo's Fear of Success Inventory were used to assess Ms, Maf, and FOS respectively one week prior to the targeted competition. An anxiety inventory, Illinois Self Evaluation Questionnaire, was used to assess Maf immediately prior to actual competition. A total of 121 NCAA division I and II swimmers (males=55; females=66) were tested during the 1982-83 swimming season. It was hypothesized that males would evidence higher levels of Ms than females while females would evidence higher levels of Maf and FOS than would males. Statistical analysis revealed elevated levels of Ms and average to low levels of Maf and FOS for athletes in this study. Comparison of males to females did not reveal significant differences on the criterion variables. This study supports the contention that females who train for competition, and compete against other females, rather than against males, do not evidence increased levels of FOS. (Author/JMK)

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Comparison of Motive to Succeed, Motive to Avoid Failure and Fear of Success Levels Between Male and Female Intercollegiate Swimmers.

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Examination of achievement motivation factors in competitive-athletic situations have been few in number, and flawed by the difficulty of artificially producing and manipulation a competitive situation. It has therefore been difficult to assess the potential application of achievement motivation theory to a competitive-athletic situation. Consequently, the question of athletic performance based upon the factors of motive to succeed (Ms), motive to avoid failure (Maf), incentive value of success (Is), probability of success (Ps) and fear of success (FOS) has not been resolved. In addition, studies examining FOS between males and females have produced conflicting findings. The purpose of this study was to investigate the problem of sex based differences among intercollegiate athletes for the variables Ms, Maf and FOS. Actual athletic competitions were used as target situations in order to elicit feelings of motive to succeed, motive to avoid failure and fear of success within each athlete. Mehrabian's (1978) scale of achieving tendencies, Martens' (1977) Sport Competition Anxiety Test, and Pappo's (1972) Fear of Success Inventory were used to assess Ms, Maf and FOS respectively one week prior to the targeted competition. Additionally, a state anxiety inventory, Illinois Self Evaluation Questionnaire, (ISEQ; Martens, 1977) was used to assess Maf immediately prior to the actual competition. A total of 121 NCAA division I and II swimmers (males=55; females=66) were tested during the 1982-1983 swimming season. It was hypothesized that males would evidence higher levels of Ms than females while females would evidence higher levels of Maf and FOS than would male subjects. It was also hypothesized that Ms levels would be higher for athletes than for a non-athletic population. Statistical analysis revealed elevated levels of Ms, average to low levels of Maf and FOS for athletes in this study. Comparison of males to females did not reveal significant differences on the criterion variables. An additional post-hoc correlation among variables indicated a trend for low FOS scores to be more positively correlated with Ms, and more negatively correlated with the two measures of Maf. This study supports the contention that females who train for competition, and compete against other females, rather than against males, do not evidence increased levles of FOS.

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Comparison of Motive to Succeed, Motive to Avoid Failure and Fear of Success Levels Between Male and Female Intercollegiate Swimmers

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As a psychological construct motivation is conceived as that which stimulates an organism to action (Atkinson and Birch, 1978; Ferguson, 1976). The Achievement motivation theory developed by McClelland, Atkinson, Clark and Lowell (1953) has attempted to account for those factors which stimulate individuals to action in evaluative situations. The importance of such a theory has not only revolutionized motivational research in educational settings, but has also provided new directions for evaluating competitive athletic behavior.

One of the specifications of achievement motivation theory is that it accounts for human behavior in any evaluative setting. Since athletic competitions are evaluated by spectators, coaches and the athletes themselves it is reasonable to assume achievement motivation theory is applicable to competitive-evaluative settings. Unfortunately, studies utilizing achievement motivation theory in competitive-evaluative situations have been few in number; especially when compared to the large number of studies conducted in educational or academic settings. One of the difficulties in

conducting achievement motivation research within competitive-evaluative settings are the control limitations of artificially induced competition (Ostrow, 1976). This is evidenced by the number of studies which note the findings are "not consistent with previous research", or the attempt to induce competition "may not have been successful" (Grove and Pargman, 1982; Healey and Landers, 1978, Scanlan, 1977; Scanlan and Ragan, 1978; Stadulis, 1976). Recognition of this limitation directs attention for researchers to be more rigorous in their laboratory settings, and to more thoroughly investigate actual competitive-evaluative contests.

According to achievement motivation theory the major factors which influence one's tendency to engage in an evaluative task are: motive to succeed (Ms), motive to avoid failure (Maf) probability of successful task completion (Ps), and incentive value of successful task completion (Is). The factors of Ms and Maf are conceived as enduring, internal factors. That is, one's motive to succeed and motive to avoid failure are motives within each individual which are relatively stable in their influence of achievement motivated behavior (Atkinson and Birch, 1978). The factors of Ms and Maf are also opposite, or competing motives. If one's Maf is greater than one's Ms the behavioral tendency will be to avoid engaging in that activity. Therefore, Ms is conceived as a facilitating achievement motive while Maf is

conceived as an inhibitory achievement motive. Ultimately the resultant tendency (Trn) of participation or non-particiption is also a function of one's perceived Ps and Is. These factors are conceived as external, non-stable factors which are dependent upon the immediate evaluative situation (Atkinson and Birch, 1978). Predictions of achievement oriented behavior are therefore seen as an interaction of these internal and external factors.

Later research by Horner (1968) was instrumental in the development of another stable, internal factor which affected one's Trn; this factor is the fear of success (FOS). Fear of success is defined as an inhibitory motive against achievement oriented behavior which develops as a result of the negative consequences anticipated for success. Therefore, in terms of producing achievement oriented behavior FOs is similar in effect to Maf. Since the time of Horner's (1968) original study and formulation of FOS a great amount of study has focused on this motive. In separate reviews of the available literature Zuckerman and Wheeler (1975), and Levine and Crumrine (1975) concluded that FOS is much less an actual phenomenon as it is an artifact of other factors. One of these factors suggested by Jackaway and Teevan (1976), and Saad, Lenauer, Shaver and Dunivant (1978) is social affiliation. These researchers have proposed FOS as a form of Maf which is elicited by one's social acceptance and affiliative needs. This proposition is also supported by Kimball and Leahy (1976) who found that increasing peer affiliation

influenced an increase in FOS for high school aged females. Similarly, Makosky (1978) found that women with high FOS levels rated having a home and family as more important than a professional career while the opposite was found for women with low FOS levels. The most supportive evidence for this proposition was provided by Argote, Fisher, McDonald and O'Neal (1976). In a study where actual acceptance and rejection in evaluative task outcomes was manipulated it was found that one's level of FOS was mediated by one's need for social affiliation. Tresemer (1976b) has concluded that (1) women do not show more fear of success imagery than do men, (2) the proportions of FOS imagery by both men and women has decreased since Horner's (1968) study, (3) the correlates of FOS appear to be few in number, (4) the actual relationship between FOS and behavioral performance is unclear. However, Tresemer (1976a) also notes that an exact replication of Horner's (1968) study has not been conducted.

As a result of the above mentioned findings the following question persists: Do males and females differ with regard to fear of success levels? An examination of the available literature studying achievement motivation and FOS differences among male and female athletes have not provided conclusive evidence to answer this question. Lefebvre (1979) found higher Maf levels among female athletes, but not significant differences in FOS among male and female athletes. Weinberg and Jackson (1979) found that female and male athletes responded similarly to

intrinsic and extrinsic motivation. Gillis (1979) found females more often attributed successful performance to luck rather than ability, while males did not evidence this trend. In a study investigating the sex role orientation of female athletes versus non-athletes Henschen, Edwards and Mathinos (1982) found a significant relationship between sex role orientation and achievement motivation. High levels of Ms were associated with masculine and androgynous sex roles, while low levels of Ms were associated with feminine and undifferentiated sex role orientations.

An additional factor which has not been investigated is the comparison of males competing against males, and females competing against females, rather than males competing with females. Significant differences in FOS between sexes may be dependent upon perceived social evaluation by females when compared with males. That is, a situation where females are compared to other females posess quite different social evaluations than situations where females are compared to males. Most athletic teams are composed of a single sex (males or females) who compete against that same sex. Such situations provide an opportunity to investigate the question of achievement motivation and FOS differences among males and females without the confusion of sex role evaluation.

Problem and Purpose

The research problem addressed in this study was, do differences in achievement motives (Ms, Maf and FOS) exist between male and female athletes? The purpose of ths study was to determine if male athletes and female athletes differ in their level of Ms, Maf and FOS when oriented toward competitive-evaluative situations against the same sex. Based upon the inconclusive findings of prior studies, and the hypothesized direction of Horner's (1968) FOS motive the research hypotheses fomulated were: (1) male athletes would have significantly higher Ms levels than would female athletes, (2) female athletes would have significantly higher Maf levels than would male athletes, (3) female athletes would have significantly higher FOS levels of than would male athletes.

Methods

Subjects used were 121 (male, n=55; female, n=66) intercollegiate swimmers and divers. Age of swimmers ranged from 18 to 24 years. All athletes belonged to NCAA Division I and II swimming teams. The actual test administration occurred in two phases which were similar for all teams, although each team was not administered the test batteries during the same competition.

One team of male athletes was tested during a highly competitive shave meet. This meet was designed to allow swimmers the opportunity to qualify for the NCAA national championship meet.

All other male teams were tested during a highly competititve collegiate invitational during the 1982-1983 swimming season. One team of female athletes (S.I.U. Carbondale) was tested at a dual meet against another nationally ranked swim team (U.C. Berkeley). All other female teams were tested at the Gateway Collegiate Athletic Conference Championships, and the National Independent Conference Championships which were conducted concurrently. It was believed that these competitions would sufficiently elicit behavioral responses corresponding to each athlete's motive to succeed, motive to avoid failure and motive to fear success.

The Mehrabian scale of achieving tendencies was used to measure levels of Ms. Pappo's Fear of Success Inventory (FOSI) was used to measure levels of FOS (Pappo, 1972). Martens Sport Competition Anxiety Test (SCAT) was used to measure levels of Maf. This follows the accepted procedure using anxiety as an indicant of Maf (Atkinson, 1964; Raphaelson, 1957; Martire, 1956; Scanlan and Ragan, 1978). The SCAT was used as an indicant of one's stable Maf while the Illinois Self Evaluation Questionnaire (ISEQ) was used to measure situational levels of Maf, following the design of Scanlan and Ragan (1978). The ISEQ was chosen over other state anxiety instruments as it is a sport specific instrument and therefore appropriate for such a study. Also, the ISEQ was developed similarly to the SCAT (Martens, 1977), and therefore, increases the concurrent validity of the construct assessed.

The Mehrabian (1978), Pappo (1972), and Martens (1977) inventories were administered to athletes one week prior to the targeted competition. This was seen to provide more accurate measurement of the trait constructs without the influence of an immediate competitive-evaluative situation. Measurement of Maf by the ISEQ was conducted at the competition site the day of the targeted competition. All athletes were administered the ISEQ prior to their initial competition.

Reliability of each inventory was analyzed using the Cronbach Alpha procedure. Internal consistency was then calculated using the Spearman-Brown formula. Comparison of athletes on the variables of Ms, Maf and and FOS was conducted by a T-test of group mean differences. Additionally, the magnitude of effect and estimated percent misclassification of subjects was calculated. Such statistics provided indication as to the strength, or magnitude of statistical differences found, and an indication of their practical significance in addition to statistical significance levels.

Results

The Cronbach alpha coefficients and internal consistency coefficients for the scales used are reported in Table 1. Mehrabian's (1978) scale of achieving tendencies was found to have a reliability of r=.40 and internal consistency of r=.92. These values differed from the r=.69 and r=.72 respectively found by Mehrabian. However, it should be noted that Mehrabian's

TABLE 1

Cronbach Alpha and Internal Consistency Coefficients of Intercollegiate Swimmers, and Normative Statistics

Intercollegiate Athletes (n=121)	Ms	SCAT	FOS	ISEQ
Cronbach alpha	.40	.49	.93	.72
Internal Consistency	.92	.83	.99	.97

Normative Statistics	Ms	SCAT	FOS	ISEQ
Reliability	.69*	.77**	--	--
Internal Consistency	.72*	.96**	--	--

*Reliability from test-retest method; internal consistency from Spearman Brown formula

**Reliability derived from test-retest method; internal consistency derived from Kuder-Richardson 20 formula

values were acquired using a test-retest method to determine reliability. The Crobach alpha coefficient (r=.49) and internal consistency coefficient (r=.83) for the SCAT are lower than the reliability values reported by Martens (1977). However, use of the Kuder-Richardson formula by Martens has been criticized by Rupnow and Ludwig (1980). The coefficients reported here more closely conform to the values reported by Rupnow and Ludwig using a split-half method to determine reliability. Normative statistics are not available for the ISEQ and FOSI, therefore, comparison of ISEQ and FOSI values found in this study to normative data was not possible.

Comparison of athletes on the variables of Ms, Maf and FOS was conducted by a T-test comparison of group mean differences, and results can be found in Table 2. For the variable of Ms no significant difference was found between the mean value for males ($\bar{X}$=57.21) and females ($\bar{X}$=57.22). Comparison of the mean value of Ms for female athletes to the normative female mean score found by Mehrabian (1978) are reported in Table 3. This data indicates that female athletes demonstrated a significantly higher mean score ($\bar{X}$=57.22) than the normative mean score for females ($\bar{X}$=46.00) with t=2.30, df=699, $p < .05$. It should be noted that the estimated magnitude of effect for t=2.30, df=699 is R=.60, with a misclassification of 23 percent based upon Ms scores alone (Freidman, 1968).

TABLE 2

Comparison of T-test of Mean Differences, and Magnitude of Effect by Sex for Intercollegiate Swimmers

Variables	X	SD	df	T	p	Magnitude of Effect R	Misclassified
Male	57.20	30.12					
Ms			118	.005	.99	---	---
Female	57.22	28.20					
Male	22.85	3.94					
SCAT			118	2.59	.01	.20	42%
Female	20.96	4.03					
Male	11.65	1.69					
FOS			118	2.05	.04	.20	42%
Female	16.96	1.89					
Male	57.09	1.87					
ISEQ			118	.86	.38	---	--
Female	54.90	1.69					

TABLE 3

Comparison of T-test of Mean Difference and Magnitude of Effect
Between Intercollegiate Swimmers and Normative Statistics

	Intercollegiate Athletes	X	SD	Normative Statistics	X	SD	T	df	Magnitude of Effect R	Misclassified
	Overall (n=121)	57.21	28.97	Overall	51.00	35.00				
Ms	Male (n=55)	57.20	30.12	Male	55.00	34.00				
	Female (n=66)	57.22	28.20	Female	46.00	36.00	2.30	699 p<.05	.60	23%
	Overall	21.82	4.08	Overall	21.17	4.36				
SCAT	Male	22.85	3.94	Male	19.44	4.68				
	Female	20.96	4.03	Female	22.60	4.87				
	Overall	14.55	14.43	Overall	---	---				
FOS	Male	11.65	12.65	Male	---	---				
	Female	16.96	15.37	Female	---	---				
	Overall	55.90	13.70	Overall	---	---				
ISEQ	Male	57.09	13.87	Male	---	---				
	Female	54.10	13.90	Female	---	---				

For the variable of Maf assessed by the SCAT there were no significant differences found between male and female athletes, or between athletes in this study and normative data for the SCAT. No significant differences were found between male and female athletes for the variables of FOS, or Maf as assessed by the ISEQ immediately prior to competition. Again, normative data for the FOSI and ISEQ are not available, therefore, comparison of athlete's scores to normative data was not possible.

Conclusions

Results of data analysis did not support the hypothesis that male athletes would have higher Ms levels than would female athletes. The mean scores for male and female athletes were almost identical (male $\bar{X}$=57.21; female $\bar{X}$=57.22). There was a significant difference found between female atheletes and females used to establish the normative data for Mehrabian's (1978) Scale of Achieving Tendencies. This finding indicates that female athletes have more of an achievement orientation than do females who are not specifically known to be athletes. This finding is not considered unusual. Athletes are involved in competitive-evaluative situations, and train specifically for competitions. Consequently, an achievement orientation for athletes regardless of sex would be expected. The magnitude of effect estimation (R=.60) and percent misclassification (23%) indicate a moderate level of statistical power in differentiating female athletes in this study from female non-athletes based upon Ms levels alone.

The hypothesis that female athletes would have significantly higher levels of Maf than would male athletes was not supported. Scores for Maf as measured by the SCAT indicated a difference between males ($\bar{X}$=22.85) and females ($\bar{X}$=20.96) with a t=2.59, df=116, $p < .01$. However, estimation of the correlation equivalent from the t value was found to be R=.20, with an estimated misclassification of 42 percent. The practical interpretation of these findings is that even though a statical difference was evidenced the findings are not practically significant in terms of statistical power and ability to separate male and female athletes based upon SCAT scores alone. No significant differences were found between male and female athletes on Maf as assessed situationally by the ISEQ. The results of this analysis does not support sex based differences for Maf. This finding is not considered unusual as all athletes train for competition. The competition of females against other females does not seem to elicit motives different from males training for competition against other males.

The hypothesis that female athletes would have significantly higher levels of FOS than would male athletes was not supported by the research findings. Mean score differences were found to be statistically significant with t=2.05, df=118, $p < .01$ (male $\bar{X}$=11.65; female $\bar{X}$=16.95). However, the estimated correlation equivalent was computed to be R=.20, with an estimated 42 percent isclassification of males and females based upon FOS scores

alone. Another factor to consider is the range of scores for Pappo's (1972) FOSI (-83 to +83). Scores found for the male and female athletes used in this study tend to indicate low to moderate scores within the scoring range. Additionally, a difference of 5.31 between males and females out of such a great range of possible scores does not seem to indicate practical significance. It is concluded that females who train for and are oriented toward competitive situations against other females do not differ from males in their FOS motive. Based upon the scoring range of the FOSI the reported levels of FOS for male and female athletes are considered to indicate a low motive to fear success. Lack of normative data for Pappo's (1972) FOSI limits further interpretation of this data.

Considering the theoretical relationship of these motives a post-hoc pearson product-moment analysis was conducted. The intended direction of such an analysis should have revealed negative relationships between the facilitating dimension of Ms and the inhibitory dimensions of Maf/FOS. Additionally, if FOS is a form of Maf as suggested by Jackaway and Teevan (1976) and Saad, Lenauer, Shaver and Dunivant (1978) then these motives should be positively correlated. The results of this correlational analysis are reported in Table 4. While the ISEQ and SCAT were highly correlated with each other ($R=.42$, $\alpha=.0001$) the SCAT and ISEQ were found to have low negative correlations with the FOSI ($R=-.29$; $R=-.19$ respectively). Similarly the Mehrabian (1978)

TABLE 4

Pearson Product-Moment Correlations Among Independent Variables for Intercollegiate Swimmers and Divers

Variables	Ms	SCAT	FOS	ISEQ
R value	Ms	-.26	.26	-.28
alpha level		.004	.004	.001
	SCAT	--	-.29	.42
			.001	.001
	FOS	--	--	-.19
				.03

scale demonstrated a low, positive correlation with the FOSI (R=.26), but similarily low, negative correlations with the SCAT and ISEQ (R=-.26; R=-.28 respectively). Although the strongest correlation was found for assessments of Maf which were measured by tests similar in design (Martens, 1977), a trend seems to be evident. Fear of Success, as assessed in this study by the FOSI, is more closely related to Ms than to Maf. Theoretically, the opposite relationship should have been found. A possible explanation is that the extreme range of the FOSI (-83 to +83) would actually indicate a strong Ms with low to moderate scores, and a strong FOS motive with high scores. These findings suggest the FOSI may assess MS and FOS along a continuum rather than FOS singularly. This conclusion is tentative and based upon theoretical relationships however, it is suggested that further examination of the actual motives assessed by Pappo's FOSI inventory be conducted.

In conclusion, this study did not find support for a sex based FOS motive among male and female athletes who compete against the same sex. It is believed that competitive athletes who train for competition against the same sex are highly motivated to succeed in their competitions. One problem which should be investigated further is the ability of Pappo's (1972) FOSI to assess FOS independent of Ms. While the FOSI has been used in prior studies (Saad, Lenauer, Shaver and Dunivant, 1978; Jackaway and Teevan, 1976) this investigation found low to moderate scores

on the FOSI to correlate more positively with Mehrabian's (1978) inventory, and thus may assess Ms and FOS along a continuum, rather than FOS alone.

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